

**UNDERGRADUATE THESIS**

**ISOLATION, POTENCY AND CHARACTERIZATION OF BREAST MILK  
BACTERIA AS A PROBIOTIC CANDIDATE**

**BY**

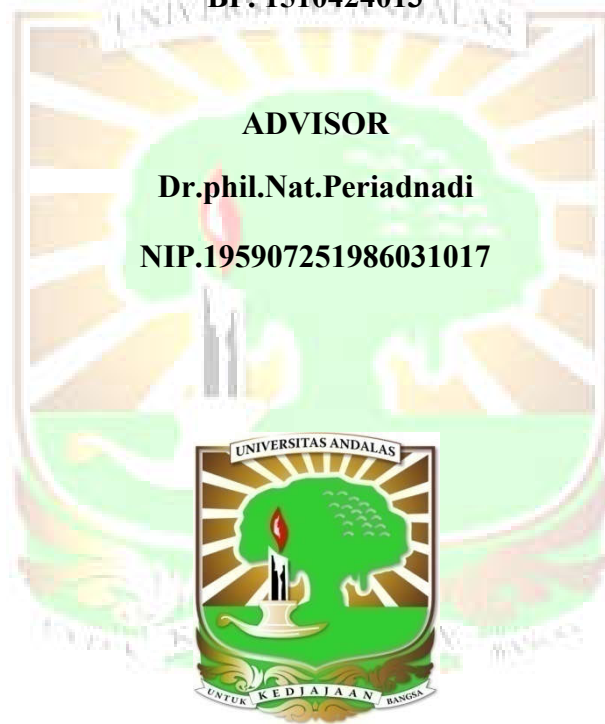
**FITRA AL ZAKIA ASYARI**

**BP. 1510424013**

**ADVISOR**

**Dr.phil.Nat.Periadnadi**

**NIP.195907251986031017**



**DEPARTMENT OF BIOLOGY**

**FACULTY OF MATHEMATICS AND NATURAL SCIENCE**

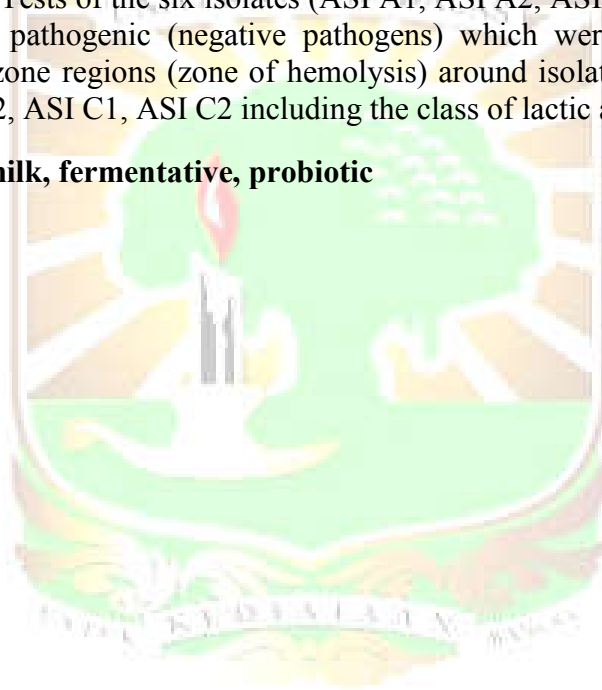
**ANDALAS UNIVERSITY**

**PADANG, 2019**

## ABSTRACT

Natural bacteria from three sample breast milk with several ages infant 0 – 2 month, 2 – 4 month and 4 – 6 month have been analyzed and compared. This study aims to analyze the composition of microflora and proteolytic bacteria in breast milk, to compare the character of potential acid fermentation isolates as probiotic candidates. The study was conducted with survey methods and data were analyzed descriptively. The results of this study include, the proportional presence of fermentative bacteria in three highest different samples obtained at the several age potential isolates of fresh breast milk, including *Lactobacillus* (*Lactobacillus* sp. 1 (ASI A1, ASI B1, ASI C1), *Lactobacillus* sp2. (ASI B2, ASI C2) and *Lactobacillus* sp3. (ASI A2) and the highest Fermentative Index found in ASI B2 isolates, and highest Proteolytic Index found also in ASI B2 isolates. Hemolysis Tests of the six isolates (ASI A1, ASI A2, ASI B1, ASI B2, ASI C1, ASI C2) were not pathogenic (negative pathogens) which were marked d with no formation of clear zone regions (zone of hemolysis) around isolates, and ASI A1, ASI A2, ASI B1, ASI B2, ASI C1, ASI C2 including the class of lactic acid bacteria.

**Keyword: breast milk, fermentative, probiotic**



## ABSTRAK

Bakteri alami dari tiga sampel ASI dengan beberapa bayi usia 0 - 2 bulan, 2 - 4 bulan dan 4 - 6 bulan telah dianalisis dan dibandingkan. Penelitian ini bertujuan untuk menganalisis komposisi bakteri mikroflora dan proteolitik dalam ASI, untuk membandingkan karakter isolat fermentasi asam potensial sebagai kandidat probiotik. Penelitian dilakukan dengan metode survei dan data dianalisis secara deskriptif. Hasil penelitian ini termasuk, keberadaan proporsional bakteri fermentasi dalam tiga sampel berbeda tertinggi yang diperoleh pada beberapa isolat potensial usia ASI segar, termasuk *Lactobacillus* (*Lactobacillus* sp. 1 (ASI A1, ASI B1, ASI C1), *Lactobacillus* sp2. (ASI B2, ASI C2) dan *Lactobacillus* sp3. (ASI A2) dan Indeks Fermentasi tertinggi ditemukan pada isolat ASI B2, dan Indeks Proteolitik tertinggi ditemukan juga pada isolat ASI B2. Tes hemolisis dari enam isolat (ASI A1, ASI A2, ASI B1, ASI B2, ASI C1, ASI C2) tidak patogen (patogen negatif) yang ditandai dengan tanpa pembentukan daerah zona bening (zona hemolisis) di sekitar isolat, dan ASI A1, ASI A2, ASI B1, ASI B2, ASI C1, ASI C2 termasuk kelas bakteri asam laktat.

**Keyword: ASI, fermentatif, probiotik**

